

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number
WO 2004/091855 A3

(51) International Patent Classification⁷: **B24B 7/06**

(21) International Application Number:
PCT/US2004/011054

(22) International Filing Date: 8 April 2004 (08.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/461,392 8 April 2003 (08.04.2003) US

(71) Applicant (*for all designated States except US*): TIME-SAVERS, INC. [US/US]; 5270 Hanson Court, Minneapolis, MA 55429 (US).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): ANDERSON, Thomas, M. [US/US]; 3005 Rosewood Lane, Plymouth, MN 55441 (US).

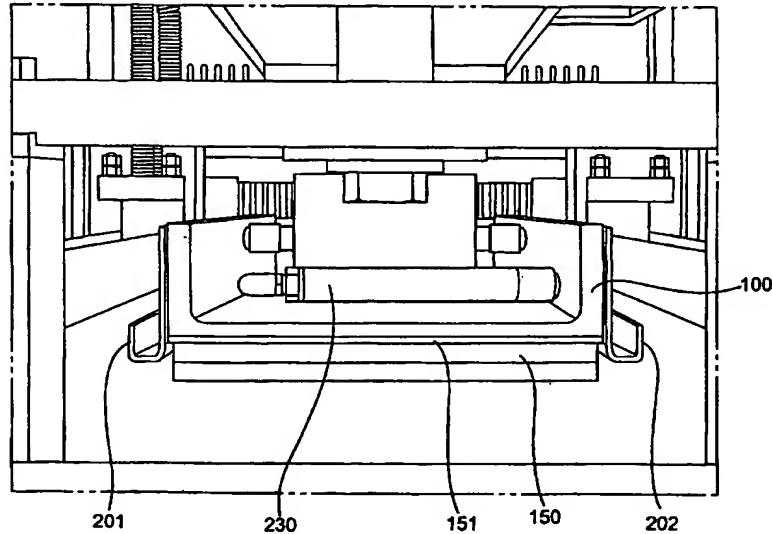
(74) Agent: FORREST, Peter; Gray, Plant, Mooty, Mooty & Bennett, P.A., P.O. Box 2906, Minneapolis, MN 55402-0906 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYSTEM FOR REPLACEMENT OF SHEET ABRASIVE



WO 2004/091855 A3

(57) Abstract: A system for replacement of abrasive (152) in machinery which uses the abrasive to finish the surfaces of workpieces that pass through the machinery on a belt, such as so-called widebelt sanders. One preferred embodiment of the system employs an abrasive material (152) that is frictionally held on each edge to mounts (210, 220). The position of the mounts may be varied to increase or decrease the tension of abrasive material against the working surface of the platen (100), that the assembly may be removed from the apparatus. In another embodiment, the abrasive material is formed with integral, permanent mounts (320) on the edges of the abrasive material, so that the entire combination may be supplied or replaced as a unit. A variety of configurations of mounts may be used.



Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

14 April 2005

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/11054

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B24B 7/06
US CL : 451/168

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 451/168, 169, 166, 164, 162, 499, 502, 520, 522, 356, 351

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2,492,372 A (SMITH) 27 DECEMBER 1949 (27.12.1949), See the entire document.	1-2,4,6-7,12-13,15-16,21,24-28,33,35-36
---		-----
Y		5,11,22,32
A	US 6,001,004 A (BOTTEGHI) 14 DECEMBER 1999 (14.12.1999)	1, 21, 26
A	US 932,879 A (MAY) 31 AUGUST 1909 (31.08.1909)	1, 21, 26
A	US 1,656,981 A (LEWIS) 24 JANUARY 1928 (24.01.1928)	1, 21, 26
A	US 5,649,855 A (CHIKAKI) 22 JULY 1997 (22.07.1997)	13, 28
A	US 6,612,914 B2 (GURUSAMY ET AL) 02 SEPTEMBER 2003 (02.09.2003)	1, 21, 26

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent published on or after the international filing date
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O"	document referring to an oral disclosure, use, exhibition or other means
"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&"	document member of the same patent family

Date of the actual completion of the international search

13 December 2004 (13.12.2004)

Date of mailing of the international search report

14 FEB 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703) 305-3230

Authorized officer

Robert Rose
Robert Rose

Telephone No. (703) 308-1078

Sheila H. Vanev
Sheila H. Vanev
Paralegal Specialist
Tech. Center 3700